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DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

Analysis of the Influence of Education Level, Wage Level, and Economic Growth on Labor Absorption in Selatan Sulawesi Province

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Abstract: The aims of this research are (1) to analyze and find out whether the variables of education level, wage rate, and economic growth jointly affect the absorption of labor in South Sulawesi Province. The data collection in this study was carried out using the library research method, with observations in 2012 - 2021, the data was obtained from the South Sulawesi Province Bappeda Office, as well as the respective Regency/City Bappeda Offices in Luwu Raya, as well as the Sulawesi Provincial BPS Office. South. Linear Regression Analysis is used to determine the relationship between the independent variable and the dependent variable. The results of the study show that together the independent variables of education level, wage rate, and economic growth have an effect on the dependent variable on employment in South Sulawesi Province during the 2012 - 2021 period. Among the three independent variables, it seems that the wage level is the factor that has the greatest influence on employment absorption in South Sulawesi Province. In connection with the results of this study, it is suggested to the Provincial Government of South Sulawesi to always pay attention to the level of public education, the number of wages received, and efforts to develop various economic sectors in this area so that economic growth can increase which in turn will increase employment and increasing social welfare.

Keywords: Education, Wages, Economic Growth, Labor Force Absorption
JEL Classification Code: O15, J24,

1. INTRODUCTION

It is fully realized that the population is an important element in the development process. Not even a few experts consider that humans are the main factor of production that determines the prosperity of nations. The reason is that nature (land) is meaningless if there are no human resources that are good at processing it so that it is beneficial for life. In addition, to increase production and develop economic activities, residents play a very important role because they provide labor, experts, company leaders, and business people who can create economic activity. (Shahbaz et al., 2020) However, population growth that is not accompanied by economic development will cause problems for a country or region. The growing population has resulted in a larger workforce. This means that the number of people who are looking for work or are unemployed also increases. To achieve a balanced situation, all of them should be accommodated in a suitable job by their desires and skills. This will have the consequence that the economy must always provide jobs for the new labor force. (Tascione et al., 2021) Even so, some think that a large population for a country can also be a (positive) development driver, namely as a potential market for goods and services produced by the community itself, a source of cheap labor that is very necessary for the development process. , and can increase production due to the increasing number of people working (Myers & Rivero, 2020). Based on the BPS Annual report regarding the population in South Sulawesi, it tends to increase every year. In 2004, the population in South Sulawesi reached 7,379,370 people, then in 2006, it was 7.62S.689, and in 2008 it reached 7,771,671. For more details, see the table below.



Table 1: Number and Population Growth Rate

Year	Total Population	Percentage (%) Population Growth Rate year
2017	7,379,370	1,45
2018	7,495,705	1,56
2019	7,629,689	1,77
2020	7,675,893	0,60
2021	7,771,671	1,32

Source: Sulsel Statistic Beureau in, 2021

Looking at the development of the population in South Sulawesi, which has increased every year. This should be a problem because of course it will have implications for an increasing number of workers and workforce, both those who are involved in the economic process and those who are not. Or in other words, the increasing number of job seekers is unemployed (Economic, 2019). The data shows that the unemployment rate in South Sulawesi in 2008 was around 311,766 workers or around 61 thousand unemployed less than in 2007 which was around 372,714 unemployed. If you look at the published data regarding employment conditions in South Sulawesi, there has been quite a positive development. Such as the rate of absorption of work/people who work each year has increased. In 2006, the working population was around 2,838,632 people, in 2007 it increased by 1.91 percent to 2,893,946, then in 2008, it increased by 7.72 percent to 3,136,111. The same goes for the poverty rate, which decreases every year. In 2007, the number of poor people in South Sulawesi was recorded at 1.08 million people, then in 2003, there were around 1.03 million people. This means that the number of poor people decreased by 51,700 people. This means that the number of poor people decreased by 51,700 people. (BPS Sulsel 2009). The development of the working of the working population in South Sulawesi Province from 2004-2008 can be seen in the following table:

Table 2: Number of Working Population of South Sulawesi Province

Year	Working population (Souls)	Growth (%)
2017	2.823.369	-
2018	2.728,677	(3.47)
2019	2.838.632	3.87
2020	2.893, 946	1.91
2021	3.136.111	7.72

Source: Sulsel Statistic Beureau in, 2021

To improve the quality of human resources which will later affect the large number of people working, it is necessary to promote programs that motivate people to create jobs and improve the skills and expertise of prospective workers. The great hope is that there will be government policies that are synergistic with the needs of the community. With this, it is hoped that it will be able to encourage the ever-increasing workforce to be involved and participate fully and independently in economic activities to increase the income they earn in achieving prosperity and a better standard of living. According to (Alam et al., 2020) Education is a real effort to improve the quality of human resources as labor. Development in the field of education aims to fulfill the intelligence of the nation's life. (Lay, 2020) The development of human resources in a country or region will determine the character of economic development because human beings are active actors who can accumulate capital, exploit various resources, and carry out various economic activities that are very important for development. (Chen et al., 2020) Education is a form of investment in human resources that may be more important than investment in physical capital. It has been found in various studies in several countries that education makes a very large contribution to the country's economic growth. The impact of education on economic growth includes the development of opportunities for people to improve their health, knowledge, skills, expertise, abilities, and insights so they can work more productively both individually and in groups.

In 2008 the percentage of South Sulawesi's population aged 10 years and over who had never attended school and did not finish elementary school was 32.12 percent. Meanwhile, 27.02 percent graduated from elementary school, 18.69 percent graduated from junior high school, 18.69 percent graduated from high school, and 6.22 percent graduated from an academy/university. Looking at the development of the percentage of the population 10 years and above according to the level of education completed in South Sulawesi, there has been no significant change. As for the percentage of residents aged 10 and over who have completed their highest education, it can be seen in the table below:

Table 3: Percentage of population 10 years and over by the level Highest Education Completed in South Sulawesi

Year	SD %	junior high school %	high school %	AC/UNIV.
2017	26.71	13.55	10.42	2.81
2018	28.14	15.1	19.57	4.77
2019	27.03	15.98	19.57	5.78
2020	26.71	15.26	18.24	6.32
2021	27.02	15.95	18.69	6.22

Source: Sulse Statistic Beureau in, 2021

In this research, the intended level of education is the level of education that has been completed by the workforce by employment regulations (junior high school and above) (Everett et al., 2019). Economic development that leads to economic growth is expected to widen economic activity, which means that it requires the involvement of the workforce to participate in these economic activities which cause the level of employment to increase. South Sulawesi's GRDP at constant 2000 prices in 2006 amounted to 38,867.68 billion rupiahs or an increase of about 6.71 percent, higher than in 2005. (Jackson & Haynes, 2020). In addition, the level of wages set in a region also influences the level of employment and labor productivity. For this reason, it is in the government's interest to establish wage policies, the one hand, to still be able to guarantee a decent standard of living for workers and their families, increase productivity and increase people's purchasing power. On the other hand, wage policy must be able to stimulate investment to encourage economic growth and expand employment opportunities and be able to contain the inflation rate (Roux et al., 2021). The issue of wages has become an interesting phenomenon that is also influential in discussing the level of absorption of labor both on a local and national scale. The problems examined in this study are formulated as follows:

1. Do the variables of education level, wage rate, and economic growth affect the absorption of labor in South Sulawesi Province?
2. Which variable has the most dominant influence on the employment of South Sulawesi Province?

2. RESEARCH DESIGN AND METHOD

A. Location and Time of Research

The location of this research is the BPS (Central Statistics Agency) Office of South Sulawesi Province and the Office of the Regional Development Planning Agency of South Sulawesi Province, where this research aims to determine the relationship between education level, wage level, and economic growth on employment in South Sulawesi (Harris, 2022). This research is planned to be carried out for 3 (three) months, starting from September to November 2011.

B. Method of collecting data

Data collection in this study was carried out using documentation or what is known as library research, this is because the data used in this research is secondary data from agencies, institutions, or

other relevant sources. The collected data were then processed and analyzed quantitatively using multiple regression and using a descriptive statistical approach.

C. Data Types and Sources

The data used in this study is secondary data, where the data was obtained from the Central Statistics Agency for South Sulawesi Province, the Regional Development Planning Agency (BAPPEDA) for South Sulawesi Province, and other sources related to this research. The data is contained from 2012 - 2021.

D. Research Object

The research object is very important in research. (Gioachin et al., 2023) says that the object of research is a collection of all elements (units or individuals) of the same type that are distinguished as the target of investigation/research. The unit/individual that is the object of investigation and whose characteristics you want to know is called the research unit (elementary unit). In this regard, the population in this study is the economic growth report data for South Sulawesi Province. Determining the object of research is carried out by making considerations including (a) the author's ability to collect secondary data in the library and at the Service Office or related agencies, and (b) very limited time to conduct data studies or analysis. Based on this, the authors have a basis for determining the object of research with complete data. Based on the existing population, the sample was selected using purposive sampling namely reports on economic growth and the variables associated with it within 2012 - 2021.

E. Data analysis

The data analysis model used to determine the relationship or characteristics of research variables can be divided into 2 (two) types, namely:

1. Analysis using descriptive statistics, in this case using averages, percentages, and frequency tables. This model is used to reveal the characteristics of a single research variable, such as work wage variables, educational level variables, economic growth variables, and labor absorption variables. (Khusaini, 2015)
2. Analysis using inferential statistics. This is to test the hypothesis that has been formulated, in this case using multiple linear regression which has been a natural logarithm with the formula:

$$\text{Ln } Y = b_0 + b_1 \text{ Ln } X_1 + b_2 \text{ Ln } X_2 + b_3 \text{ Ln } X_3 + \text{and}_i$$

Where:

- Y = Labor force absorption (number of people employed)
- X₁ = Completed level of education
- X₂ = Wage rate
- X₃ = Economic growth
- b₁-b₃ = Regression Coefficient (Parameter)
- b₀ = Constant (Intercept)
- and_i = Error Factor

Furthermore, to determine the effect and significant level used $\alpha = 0.05$ or 5% can be tested using the F-test through the SPSS 15.0 program.

F. Operational Variables

The operational definition is used so as not to cause multiple interpretations, namely by providing limitations on the variables used in this study, namely:



1. The workforce is the population aged 15 and over, which is commonly called manpower
2. The labor force is the population belonging to the labor force who have a job or do not have a job but are looking for work (Harris, 2022).
3. Labor absorption is the number of people working in a certain period.
4. Economic growth is a slow and gradual long-term change in all economic sector activities in a certain area or certain area within a certain period. In this study, the growth of GRDP in South Sulawesi Province in less time 1999 - 2008 was observed. (Dembińska et al., 2022)
5. The level of education is the highest level of education completed by the workforce, which in this research is used as a parameter of the proportion of the workforce that completes the First Level Advanced School (SLTP) education and above.
6. (Jepsen & Jepsen, 2022) Wage is the right of employment/labor that is received and expressed in the form of money as a reward from the employer or employer to the worker/laborer which is determined and paid according to a work agreement, agreement or laws and regulations, which in this study used the parameter of the Sulawesi UMR South in the time bracket 1999 - 2008.

3. RESULT AND DISCUSSION

1. Demographic Aspect

Table 4: Number and Population Growth Rate South Sulawesi Province 1999-2008

Year	Total population	% Growth
2012	7.978.435	
2013	7.801.678	-2,27
2014	7.891.792	1,14
2015	7.960.991	0,87
2016	8.213.864	3,08
2017	8.342.083	1,54
2018	7.494.701	-11,31
2019	7.629.138	1,76
2020	7.675.893	0,61
2021	7.805.024	1,65

Source: Sulsel Statistic Beureau in, 2021

2. Labor Aspect

Table 5: Development of the Work Force and Non-Force South Sulawesi Province Work Year 1999-2008

Year	Development of the Workforce and Non-Workforce		
	Workforce	Not the Workforce	Number of PUK
2012	3.240.449	3.055.298	6.295.747
2013	2.961.531	3.249.959	6.211.490
2014	3.137.274	3.025.776	6.163.050
2015	3.143.849	3.141.681	6.285.530
2016	3.279.832	3.245.276	6.525.108
2017	3.059.053	2.820.987	5.880.040
2018	3.234.801	2.723.968	5.958.769
2019	3.005.723	2.251.560	5.257.283
2020	3.312.177	2.111.226	5.423.403
2021	3.447.879	2.111.869	5.559.748

Source: Sulsel Statistic Beureau in, 2021



Table 6: Total population of South Sulawesi who are working (Population)

Year	Working Population (Y)	Growth
2012	2,335,441	-
2013	2,543,143	8.89
2014	2,701,375	6.22
2015	2,918,149	8.03
2016	2,754,774	-5.60
2017	2,823,369	2.49
2018	2,728,677	-3.35
2019	2,838,632	4.02
2020	2,893,946	1.95
2021	3,136,111	8.37

Source: Sulsel Statistic Beureau in, 2021

3. Level of education

Table 7: Percentage of the Workforce According to Education Level

No	Year	tps /ttsd	SD	junior high school	high school	AND/ UNIV.	% Peddk who graduated from junior high school and above
1	2012	26.34	26.91	13.09	16.25	3.16	32.5
2	2013	34.88	26.38	12.78	21.62	4.39	38.79
3	2014	36.66	25.7	11.85	17.87	3.91	33.63
4	2015	37.58	28.05	14.26	16.77	3.34	34.37
5	2016	36.91	28.39	14.36	16.93	3.35	34.64
6	2017	32.76	26.71	13.55	10.42	2.81	26.78
7	2018	35.19	28.14	15.1	19.57	4.77	39.44
8	2019	31.67	27.03	15.98	19.57	5.76	41.31
9	2020	33.46	26.71	15.26	18.24	6.32	39.82
10	2021	34.09	27.02	15.95	18.69	6.22	40.86

Source: Sulsel Statistic Beureau in, 2021

4. Wage Rate

Table 8: Regional Minimum Wage (UMR) Provincial Minimum Wage (UMP)

Year	Regional Minimum Wage (Rupiah)	
	UMR Per Day	UMR Per Month
April 2016	70.966	2.129.000
April 2017	73.333	2.200.000
April 2018	76.666	2.300.000
April 2019	79.166	2.375.000
January 2021	100.500	3.015.000
January 2021	101.833	3.055.000
January 2021	100.333	3.010.000
January 2021	100.400	3.012.000
January 2021	102.433	3.073.000
January 2021	105.333	3.160.000

Source: Sulsel Statistic Beureau in, 2021

5. Economic growth

Table 9: GRDP Based on Current Prices and Constant Prices (In billion rupiahs)

Year	Price in effect	Constant Price
2012	24.064,89	9.631,08
2013	26.596,24	10.101,95
2014	32.098,57	10.603,66
2015	35.344,42	30.984,82
2016	39.414,65	32.627,38
2017	44.744,53	34.345,08
2018	51.780,44	36.421,78
2019	60.902,82	38.867,68
2020	69.271,92	41.332,43
2021	85.143,19	44.549,82

Source: Sulsel Statistic Beureau in, 2021

6. Regression Results Analysis

Table 10: Estimation Results of the Effect of Education Level, Wage Level, and Economic Growth on Labor Absorption in South Sulawesi 1999 -2008

No	Information
1	R = 0,971
2	R2 = 0,943
3	F = 32, 807
4	Constant = 5,292
5	X coefficient1 = 0,013
6	X coefficient2 = 0,106
7	X coefficient3 = 0,036

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